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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,158	10/30/2003	Ralf Zuber	13574 US	1631

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NEW YORK, NY 10022

EXAMINER

WILLS, MONIQUE M

ART UNIT	PAPER NUMBER
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1795

MAIL DATE	DELIVERY MODE
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11/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/699,158

Applicant(s)

ZUBER ET AL.

Examiner

Monique M. Wills

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 12*-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/2/07 & 7/31/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

This Office Action is responsive to the Amendment filed August 2, 2007. The election without traverse of claims 1-11, 16 & 17 has been acknowledged. The instant claims are rejected as follows:

Claims 12-15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected process for producing a membrane, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on August 2, 2007.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 & 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton et al. U.S. Pub. 2003/0157397.

Barton teaches a membrane electrode unit comprising an ionically conductive membrane with affront side and back side, a first catalyst layer on the front side of the membrane, and a first gas distribution substrate associated with the front

Art Unit: 1795

side of the membrane and the first catalyst layer, a second catalyst layer on the back side of the membrane, and a second gas distributor substrate associated with the back side of the membrane and the second catalyst layer. See Figure 2. The catalyst layer on the front side and the catalyst layer on the back side have the same surface dimensions. See Figure 2. The catalyst layer is a noble metal of platinum (par. 86). The conductive membrane is a perfluorinated polymeric sulfonic acid. See paragraph 86. The gas distributor layer is carbon fiber. See paragraph 91.

However, Barton does not expressly disclose gas distributors wherein on layer has smaller dimensions than the other layer.

However, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ gas distributors having different dimensions, in order to reduce the amount of distributor material required or increase accessibility to the adjacent electrode. The skilled artisan recognizes the importance of conserving materials to reduce operating cost. Additionally, the skilled artisan recognizes that accessibility to the adjacent electrode is necessary to improve contact with fuel cell peripherals.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

Art Unit: 1795

subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton et al. U.S. Pub. 2003/0157397 in view of Lertola U.S. Pub. 2005/0255372.

Barton teaches a membrane electrode assembly, but is silent to a seal surrounding the gas distribution substrate (claim 8) that is impregnated at the edge region to a depth of 1mm (claim 9) made from specific thermoplastic polymers (claim 10) combined with a plastic frame (claim 11).

However, Lertola teaches a membrane electrode assembly with first and second gas diffusion backing having sealing edges (claim 8). See the abstract. The seal is impregnated into the sealing edges (claim 9) and made of high-density polyethylene (claim 10). See paragraphs 33 & 96. The seal also includes a peripheral frame (claim 11). See paragraph 78.

Barton and Lertola are analogous art from the same field of endeavor, namely fabricating membrane electrode assemblies having first and second gas diffusion layers and catalyst.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the instant invention was made, to apply the seal assembly of Barton, to the membrane electrode assembly of Shibata, in order to provide fluid impermeable seals.

Response to Amendment

Applicant's perfection of German applications having the filing date of July 14 2003 antedates the Shibata reference with a U.S. filing date of August 6, 2003.

Therefore, all previous rejections including Shibata art have been withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Patrick Ryan, may be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

Application/Control Number: 10/699,158

Page 6

Art Unit: 1795

direct.uspto.gov. Should you have questions on access to the Private PAIR system,
contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MW

10/20/07



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER